

Application No.: 10/026,171

Response dated: October 19, 2004

Reply to Office Action of January 27, 2004

This listing and amendment of the claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for preparing a supported catalyst composition system comprising:
 - (a) first heating a composition comprising a metallocene catalyst compound to a temperature of from 75°C to 125°C; and
 - (b) then combining the heated composition with a carrier.
2. (Original) The method of claim 1 wherein the carrier is heated.
3. (Currently Amended) The method of claim 1 wherein in step (a) the composition is heated to a temperature in the range of from 75°C to 100°C, and wherein said composition comprises said metallocene catalyst compound and an activator.
4. (Previously Presented) The method of claim 2 wherein the carrier is heated to a temperature in the range of from 26°C to 150°C.
5. (Currently Amended) The method of claim 1 and 3 wherein the metallocene catalyst compound has a solubility less than 20 weight percent of metallocene catalyst compound in toluene at (25°C), and wherein said activator is selected from one of alumoxane; modified alumoxane; ionizing activators; neutral or ionic; or combinations thereof.
6. (Currently Amended) A method for making a supported catalyst system composition comprising:
 - (a) first forming a reaction product comprising a metallocene catalyst compound and an activator;
 - (b) second heating the reaction product to a temperature of from 60°C to 125°C;
 - (c) then introducing a carrier, optionally heating the carrier;
 - (d) combining the heated reaction product with the carrier or optionally the heated carrier.

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7. (Original) The method of claim 6 wherein the reaction product is heated to a temperature in the range from 75°C to 100°C.
8. (Currently Amended) A method for making a supported catalyst system composition comprising:
 - (a) a first step consisting essentially of heating an activated metallocene catalyst product to a temperature of from 60°C to 125°C;
 - (b) a second step comprising heating a carrier; and
 - (c) a third step comprising combining the heated carrier and the heated activated metallocene catalyst.
9. (Currently Amended) The method of claim 8 wherein the activated metallocene catalyst is heated to a temperature of from 75°C to 100°C and wherein said activator is selected from one of alumoxane; modified alumoxane; ionizing activators, neutral or ionic; or combinations thereof.
10. (Currently Amended) A method for preparing a supported catalyst system composition comprising:
 - (a) a first step consisting essentially of heating a composition comprising a metallocene catalyst compound and an activator to a first temperature, wherein the first temperature is in the range of from 60°C to 110°C;
 - (b) a subsequent step comprising heating a carrier at a second temperature; and
 - (c) a subsequent step comprising combining said metallocene catalyst, and said carrier, at a third temperature.
11. (Original) The method of claim 10 wherein the first, second and third temperatures are the same.
12. (Original) The method of claim 10 wherein the first and second temperatures are the same.

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13. (Cancelled)
14. (Previously Presented) A method for preparing a supported catalyst composition comprising:
 - (a) forming a catalyst system consisting essentially of a metallocene catalyst compound and an activator at a temperature in the range of from 60 °C to 125°C; and
 - (b) subsequently introducing a further component comprising a carrier.
15. (Original) The method of claim 14 wherein the supported catalyst composition is dried or substantially dried to a free flowing powder composition.
16. (Original) The method of claim 15 wherein the free flowing composition is reslurried in a liquid.
17. (Original) The method of claim 16 wherein the liquid is mineral oil.
18. (Previously Presented) The method of claim 14 wherein the metallocene catalyst compound and activator are combined at a temperature of from 60 °C to 110°C.
19. (Previously Presented) The method of claim 14 wherein the metallocene catalyst compound and activator are combined at a temperature of from 60°C to 100°C.
20. (Previously Presented) The method of claim 14 wherein the metallocene catalyst compound and activator are combined at a temperature of from 75°C to 100°C.
21. (Previously Presented) A method for preparing a supported catalyst composition comprising:

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- a) combining a metallocene catalyst compound and an activator at a temperature in the range of from 60°C to 110°C; and
- b) introducing a carrier.

22. (Previously Presented) The method of claim 21, wherein the metallocene catalyst compound and activator are combined at a temperature of from 75°C to 100°C.
23. (Currently Amended) The method of claim 1, wherein said metallocene catalyst compound is described by the formula:



L^A , L^B , are selected from the group consisting of cyclopentadienyl ligands, cyclopentaphenanthrenyl ligands, indenyl ligands, benzindenyl ligands, fluorenyl ligands, octahydrofluorenyl ligands, cyclooctatetraendyl ligands, cyclopentacyclododecene ligands, azenyl ligands, azulene ligands, pentalene ligands, phosphoyl ligands, phosphinimine, pyrrolyl ligands, pyrozoilyl ligands, carbazolyl ligands, borabenzene ligands, including hydrogenated versions thereof; independently, each L^A and L^B may be the same or different; M is selected from the group consisting of zirconium, hafnium and titanium, Q is a monoanionic labile ligand having a sigma-bond to M; depending on the oxidation state of M, the value for n is 0, 1 or 2 such that the catalyst compound comprises a ~~neutral~~ metallocene catalyst compound; A is selected from the group consisting of a carbon, oxygen, nitrogen, silicon, aluminum, boron, germanium and tin atom or a combination thereof, and wherein said activator is selected from one of alumoxane, modified alumoxane, ionizing activators, neutral or ionic, or combinations thereof.

24. (Currently Amended) The method of claim 23, wherein L^A , L^B , are tetrahydroindenyl ligands; A is represented by a member of the group consisting of R'_2C , R'_2Si , $R'_2SiR'_2Si$, R'_2Ge , and $R'P$, where R' is independently, a radical group which is hydride, hydrocarbyl, substituted hydrocarbyl, halocarbyl,

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substituted halocarbyl, hydrocarbyl-substituted organometalloid, halocarbyl-substituted organometalloid, disubstituted boron, disubstituted pnictogen, substituted chalcogen, or halogen or two or more R' may be joined to form a ring or ring system, and where in said Q is selected from the group consisting of hydrocarbyl radicals having from 1 to 20 carbon atoms, and halogens.

25. (Previously Presented) The method of claim 24, wherein said A is R'₂Si, where R' is hydrocarbyl; and M is zirconium.
26. (Currently Amended) The method of claim 1, wherein said metallocene catalyst compound is one of dimethylsilyl-bis (tetrahydroindenyl) zirconium dichloride or dimethylsilyl-bis (tetrahydroindenyl) zirconium difluoride, said catalyst composition further comprising an activator, wherein said activator is selected from one of alumoxane, modified alumoxane, ionizing activators, neutral or ionic, or combinations thereof.
27. (Currently Amended) A method for making a supported catalyst system composition comprising:
- a) first forming a reaction product comprising a metallocene catalyst compound and an activator, wherein said metallocene catalyst compound comprises one of dimethylsilyl-bis(tetrahydroindenyl) zirconium dichloride or dimethylsilyl-bis(tetrahydroindenyl) zirconium difluoride;
 - b) second heating the reaction product to a temperature of from 60°C to 125°C;
 - c) then introducing a carrier, optionally heating the carrier;
 - d) combining the heated reaction product with the carrier or optionally the heated carrier.
28. (Currently Amended) A method for making a supported catalyst system composition comprising:

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- a) first forming a reaction product comprising a metallocene catalyst compound and an activator, wherein said metallocene catalyst compound consists essentially of one of dimethylsilyl-bis(tetrahydroindenyl) zirconium dichloride, dimethylsilyl-bis(tetrahydroindenyl) zirconium difluoride.
 - b) second heating the reaction product to a temperature of from 60°C to 125°C;
 - c) then introducing a carrier, optionally heating the carrier;
 - d) combining the heated reaction product with the carrier or optionally the heated carrier.
29. (Currently Amended) A method for making a supported catalyst system composition comprising:
- a) first forming a reaction product consisting essentially of one of dimethylsilyl-bis(tetrahydroindenyl) zirconium dichloride or dimethylsilyl-bis(tetrahydroindenyl) zirconium difluoride, and methyl alumoxane;
 - b) second heating the reaction product, said heating consisting essentially of a temperature of from 60°C to 125°C;
 - c) then introducing a carrier, optionally heating the carrier;
 - d) combining the heated reaction product with the carrier or optionally the heated carrier.